Claims

1. A fired, basic, refractory, industrial ceramic shaped body comprising at least one basic resistor component and an elasticizer component, characterized in that the elasticizer component is a calcium aluminate having a CaO/Al_2O_3 ratio of from 0.14 to 0.2, in particular of the chemical formula $CaAl_{12}O_{19}$.

2. The shaped body as claimed in claim 1, characterized in that the elasticizer component has the oxide formula $CaO \cdot 6Al_2O_3$ or the abbreviated formula CA_6.

3. The shaped body as claimed in claim 1 and/or 2, characterized in that the elasticizer component contains up to 10% by mass of secondary phases.

4. The shaped body as claimed in claim 3, characterized in that the elasticizer component contains SiO_2 and/or TiO_2 and/or Fe_2O_3 and/or MgO as secondary phases.

5. The shaped body as claimed in one or more of claims 1 to 4, characterized in that up to 58% by mass of Al_2O_3 has been replaced by Fe_2O_3 in the elasticizer component.

6. The shaped body as claimed in one or more of claims 1 to 5, characterized in that Ca^{2+} has been partly replaced by Ba^{2+} and/or Sr^{2+} in the elasticizer component.

7. The shaped body as claimed in one or more of claims 1 to 6, characterized in that the resistor component is sintered MgO and/or fused magnesia and/or sintered doloma and/or fused doloma.

8. The shaped body as claimed in one or more of claims 1 to 7, characterized in that the shaped body comprises from 60 to 99.5% by mass of resistor component and from 0.5 to 40% by mass of elasticizer component.

9. The shaped body as claimed in one or more of claims 1 to 8, characterized in that at least one further elasticizer known per se is present.

10. The shaped body as claimed in one or more of claims 1 to 9, characterized by an overall density of from 2.5 to 3.2 g/cm^3.

11. The shaped body as claimed in one or more of claims 1 to 10, characterized by a porosity of from 12 to 25% by volume, in particular from 14 to 23% by volume.

12. The shaped body as claimed in one or more of claims 1 to 11, characterized by a cold compressive strength above 35 MPa, in particular above 45 MPa, and a cold flexural strength above 2 MPa.

13. The shaped body as claimed in one or more of claims 1 to 12, characterized by a modulus of elasticity of from 14 to 35 GPa, in particular from 15 to 32 GPa, and a shear modulus of from 6 to 15 GPa, in particular from 7 to 14 GPa.

14. The shaped body as claimed in one or more of claims 1 to 13, characterized by a thermal shock resistance of >80.

15. A process for producing a shaped body as claimed in one or more of claims 1 to 14, which comprises mixing at least one resistor component with at least one CA_6 elasticizer component and admixing

the mixture with a binder and mixing it to form a shapeable composition, subsequently shaping the composition to produce bodies and drying the shaped bodies and then firing the bodies at high temperatures to sinter them.

16. The process as claimed in claim 15, characterized in that lignin sulfonate is used as binder.

17. The process as claimed in claim 15 and/or 16, characterized in that the resistor component used has a maximum particle size of 4 mm and a particle size distribution corresponding to a Fuller curve.

18. The process as claimed in one or more of claims 15 to 17, characterized in that the elasticizer component used has a particle size range from 0.5 to 4 mm.

19. The process as claimed in one or more of claims 15 to 18, characterized in that drying is carried out at temperatures of from 100 to 120°C.

20. The process as claimed in one or more of claims 15 to 19, characterized in that sintering is carried out at temperatures of from 1400 to 1700°C, in particular from 1550 to 1650°C.

21. The process as claimed in one or more of claims 15 to 20, characterized in that from 60 to 99.5% by mass of resistor component and from 0.5 to 40% by mass of elasticizer component are used.

22. The process as claimed in one or more of claims 15 to 21, characterized in that at least one pre-synthesized elasticizer component is used.

23. The process as claimed in one or more of claims 15 to 22, characterized in that a granulated mixture

for the elasticizer component obtained by mixing appropriate raw materials is mixed with the resistor component and the elasticizer component is generated during firing.

24. The process as claimed in one or more of claims 15 to 23, characterized in that firing is carried out so that microcrack formation between the resistor matrix and the elasticizer component occurs.

25. The use of shaped bodies as claimed in one or more of claims 1 to 14 produced as claimed in one or more of claims 15 to 24 in a masonry lining of a rotary tube furnace.

26. The use as claimed in claim 25, characterized in that the shaped bodies are located in the sintering zone of the rotary tube furnace.

27. The use as claimed in claim 25 and/or 26, characterized in that the shaped bodies are located in the lower transition zone of the rotary tube furnace.

28. The use as claimed in one or more of claims 25 to 27, characterized in that the shaped bodies are located in a rotary tube furnace for cement.